

Environmental Protection Agency

§ 98.360

Industrial wastewater treatment sludge means solid or semi-solid material resulting from the treatment of industrial wastewater, including but not limited to biosolids, screenings, grit, scum, and settled solids.

Wastewater treatment system means the collection of all processes that

treat or remove pollutants and contaminants, such as soluble organic matter, suspended solids, pathogenic organisms, and chemicals from wastewater prior to its reuse or discharge from the facility.

TABLE II-1 TO SUBPART II—EMISSION FACTORS

Factors	Default value	Units
B ₀ —for facilities monitoring COD	0.25	Kg CH ₄ /kg COD
B ₀ —for facilities monitoring BOD ₅	0.60	Kg CH ₄ /kg BOD ₅
MCF—anaerobic reactor	0.8	Fraction.
MCF—anaerobic deep lagoon (depth more than 2 m)	0.8	Fraction.
MCF—anaerobic shallow lagoon (depth less than 2 m)	0.2	Fraction.

TABLE II-2 TO SUBPART II—COLLECTION EFFICIENCIES OF ANAEROBIC PROCESSES

Anaerobic process type	Cover type	Methane collection efficiency
Covered anaerobic lagoon (biogas capture)	Bank to bank, impermeable	0.975
	Modular, impermeable	0.70
Anaerobic sludge digester; anaerobic reactor	Enclosed Vessel	0.99

Subpart JJ—Manure Management

§ 98.360 Definition of the source category.

(a) This source category consists of livestock facilities with manure management systems that emit 25,000 metric tons CO₂e or more per year.

(1) Table JJ-1 presents the minimum average annual animal population by animal group that is estimated to emit 25,000 metric tons CO₂e or more per year. Facilities with an average annual animal population, as described in

§ 98.363(a)(1) and (2), below those listed in Table JJ-1 do not need to report under this rule. A facility with an annual animal population that exceeds those listed in Table JJ-1 should conduct a more thorough analysis to determine applicability.

(2) (i) If a facility has more than one animal group present (e.g., swine and poultry), the facility must determine if they are required to report by calculating the combined animal group factor (CAGF) using equation JJ-1:

$$\text{CAGF} = \sum_{\text{Animal Groups}} \left(\frac{\text{AAAP}_{\text{AG, Facility}}}{\text{APTL}_{\text{AG}}} \right) \quad (\text{Eq. JJ-1})$$

Where:

CAGF = Combined Animal Group Factor

AAAP_{AG, Facility} = Average annual animal population at the facility, by animal group

APTL_{AG} = Animal population threshold level, as specified in Table JJ-1 of this section

(ii) If the calculated CAGF for a facility is less than 1, the facility is not required to report under this rule. If

the CAGF is equal to or greater than 1, the facility must use more detailed applicability tables and tools to determine if they are required to report under this rule.

(b) A manure management system (MMS) is a system that stabilizes and/or stores livestock manure, litter, or manure wastewater in one or more of

the following system components: Uncovered anaerobic lagoons, liquid/slurry systems with and without crust covers (including but not limited to ponds and tanks), storage pits, digesters, solid manure storage, dry lots (including feedlots), high-rise houses for poultry production (poultry without litter), poultry production with litter, deep bedding systems for cattle and swine, manure composting, and aerobic treatment.

(c) This source category does not include system components at a livestock facility that are unrelated to the stabilization and/or storage of manure such as daily spread or pasture/range/paddock systems or land application activities or any method of manure utilization that is not listed in § 98.360(b).

(d) This source category does not include manure management activities located off site from a livestock facility or off-site manure composting operations.

§ 98.361 Reporting threshold.

Livestock facilities must report GHG emissions under this subpart if the facility meets the reporting threshold as defined in 98.360(a) above, contains a manure management system as defined in 98.360(b) above, and meets the requirements of § 98.2(a)(1).

§ 98.362 GHGs to report.

(a) Livestock facilities must report annual aggregate CH₄ and N₂O emissions for the following MMS components at the facility:

- (1) Uncovered anaerobic lagoons.
- (2) Liquid/slurry systems (with and without crust covers, and including but not limited to ponds and tanks).
- (3) Storage pits.
- (4) Digesters, including covered anaerobic lagoons.
- (5) Solid manure storage.
- (6) Dry lots, including feedlots.
- (7) High-rise houses for poultry production (poultry without litter)
- (8) Poultry production with litter.
- (9) Deep bedding systems for cattle and swine.
- (10) Manure composting.
- (11) Aerobic treatment.

(b) A livestock facility that is subject to this rule only because of emissions from manure management system components is not required to report emissions from subparts C through PP (other than subpart JJ) of this part.

(c) A livestock facility that is subject to this part because of emissions from source categories described in subparts C through PP of this part is not required to report emissions under subpart JJ of this part unless emissions from manure management systems are 25,000 metric tons CO₂e per year or more.

§ 98.363 Calculating GHG emissions.

(a) For all manure management system components listed in 98.360(b) except digesters, estimate the annual CH₄ emissions and sum for all the components to obtain total emissions from the manure management system for all animal types using Equation JJ-1.

$$\text{CH}_4 \text{ Emissions}_{\text{MMS}} \text{ (metric tons/yr)} = \sum_{\text{animal types}} \left[\sum_{\text{MMS}} \left[(\text{TVS}_{\text{AT}} \times \text{VS}_{\text{MMS}} \times (1 - \text{VS}_{\text{ss}}) \times 365 \text{ days/yr} \times (\text{B}_0)_{\text{AT}} \times \text{MCF}_{\text{MMS}}) \times 0.662 \text{ kg CH}_4/\text{m}^3 \times 1 \text{ metric ton}/1000 \text{ kg} \right] \right] \quad (\text{Eq. JJ-2})$$

Where:

MMSC = Manure management systems component.

TVS_{AT} = Total volatile solids excreted by animal type, calculated using Equation JJ-3 of this section (kg/day).

VS_{MMS} = Fraction of the total manure for each animal type that is managed in MMS component MMSC, assumed to be equivalent to the fraction of VS in each MMS component.

VS_{ss} = Volatile solids removal through solid separation; if solid separation occurs prior to the MMS component, use a default value from Table JJ-4 of this section; if no solid separation occurs, this value is set to 0.

(B₀)_{AT} = Maximum CH₄-producing capacity for each animal type, as specified in Table JJ-2 of this section (m³ CH₄/kg VS).

MCF_{MMS} = CH₄ conversion factor for the MMS component, as specified in Table JJ-5 of this section (decimal).